What is claimed is:

1. A structured fluid composition comprising:

(a) a low refractive index liquid;

(b) at least one particle selected from the group consisting of a light absorbing particles such as pigments, non light absorbing particles such as teflon, silica, alumina and mixtures there of, and combinations thereof; and

(c) at least one additive selected from the group consisting of

(i) a dispersant,

(ii) a charging agent,

(iii) a surfactant,

(iv) a flocculating agent,

(v) a polymer, and

(vi) combination thereof;

resulting in a stable suspension that is not agglomerated or clustered, having ionically charged light absorbing particles, and forming an interactive structure which inhibits motion, and for use in a TIR electronic display.

2. An electronically addressable display, comprising:

(a) a transparent upper front sheet;

(b) a lower sheet that is essentially parallel to and spaced from the upper front sheet;

(c) a structured electrophoretic suspension substantially filling the space between the sheets which structure is controlled by the composition of the suspension, wherein the composition comprises a low refractive index liquid; a light absorbing particles such as pigments; particles which are not light absorbing such as teflon, silica, alumina and combinations thereof; and at least one additive selected from the group consisting of a dispersant, a charging agent, a surfactant, a flocculating agent, a polymer, and combination thereof; and

(d) a means for applying a voltage across the suspension for controllably compressing the colloidal suspension away from the inward surface of the front sheet to either form a thin particle free liquid layer to allow total internal reflection or a layer with a higher concentration of particles to frustrate total internal reflection at the inward surface of light rays passing through the front sheet.

3. The composition of claim 1 wherein the liquid electrophoretic medium is comprised of substantially fluorinated oils.

4. The composition of claim 3 wherein the fluorinated oil is perfluorinated.

5. The composition of claim 1 wherein the particles occupy from about 1 to about 75% by weight of the electrophoretic suspension.

6. The composition of claim 1 wherein the particles comprise a blue pigment, red pigment, brown pigment, black pigment and combinations thereof.

7. The composition of claim 6 where the blue pigment is selected from a group consisting of chromophthal blue, metal containing phthalo blue, metal free phthalo blue indigo blue and combinations thereof.

8. The composition of claim 6 where the red pigment is selected from a group consisting of monastral red and combinations thereof.

9. The composition of claim 6 where the black pigment is selected from a group consisting of carbon black, modified carbon black, iron oxide, aniline black and combinations thereof.

10. The composition of claim 1 comprising a mixture of two or more pigment particles to enhance the optical properties, wherein the frustration of total

internal reflection is improved by the collective absorption of different wavelengths of light.

11. The composition of claim 1 wherein the composition results in a colloidal structure with a non-Newtonian rheology.

12. The composition of claim 1 wherein the composition results in a colloidal structure which has a yield stress.

13. The composition of claim 1 wherein the particle has a surface treatment selected from the group consisting of reaction with an oxidizing or reducing chemical, reaction with a chemical that covalently bonds to the surface, grafting onto the surface with a plasma containing small molecules such as oxygen or monomers with various functional groups or mixtures thereof resulting in improved response time and as herein the dispersant forms a tightly packed monolayer adsorbed on the particle surface resulting in less particle agglomeration.

14. The composition of claim 1

(a) where-in the particle has a sufficient number of functional groups of either acid or base, to allow a dispersant to form a tightly packed mono-layer, and

(b) wherein the dispersant has the complementary acid or basic functional group to interact with the particle surface and a molecular structure resulting in a strong interaction between the particle surface and the dispersant to inhibit agglomeration.

15. The composition of claim 1 wherein the suspended particles have at least two distinct particle size distributions one in the range of about 200 nm to about 500 nm and the other in the range of about 10 nm to about 100 nm.

16. The composition of claim 1 wherein the particles are coupled via reaction with a coupling agent and wherein the coupling agent is bi-functional.

17. The composition of claim 1 wherein the dispersant has only either an acidic functional group or a basic functional group.

18. The composition of claim 1 wherein the ratio of dispersant to pigment ranges from about 0.1 to about 3.

19. The composition in claim 1 where the concentration of pigment particles is adjusted to maintain small particle separation distance in a homogeneous dispersion so the distance that particles must move to produce a color change in TIR is small, and this results in fast response time in producing an image.

20. The composition of claim 1 where the pigment concentration is high enough to enable rapid color change in an electric field.

21. The composition in claim 1 with concentration of components adjusted to cause a yield stress to impede motion under low shear forces (such as gravity), but with a small enough yield stress to enable rapid motion of particles in a low electric field.

22. A colloidal suspension in claim1 where the colloidal structure is due to weak flocculation.

23. The composition in claim 1 where the charging agent, dispersant or surfactant forms inverse micelles which increase the particle charge thereby improving the structure and response time of the mixture.